



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

January 23, 2018

Mr. Darin Myers  
Vice President  
Southern Nuclear Operating Company, Inc.  
Vogtle Electric Generating Plant  
7821 River Road  
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC DESIGN BASES  
ASSURANCE INSPECTION (PROGRAMS) REPORT NUMBER  
05000424/2017009 AND 05000425/2017009

Dear Mr. Myers:

On December 15, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant, Units 1 & 2, and the NRC inspectors discussed the results of this inspection with you and other members of your staff. Additional inspection results were discussed with Mr. D. Sutton and other members of your staff on January 17, 2018. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC resident inspector at the Vogtle Electric Generating Plant, Units 1 & 2.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

**/RA/**

Shakur A. Walker, Chief  
Engineering Branch 1  
Division of Reactor Safety

Docket Nos.: 50-424, 50-425  
License Nos.: NPF-68, NPF-81

Enclosure:  
Inspection Report 05000424/2017009 and 05000425/2017009,  
w/Attachment: Supplemental Information

cc: Distribution via ListServ

D. Myers

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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC DESIGN BASES  
ASSURANCE INSPECTION (PROGRAMS) REPORT NUMBER  
05000424/2017009 AND 05000425/2017009

Distribution:

G. Ottenberg, RII  
B. Davis, RII  
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A. Blamey, RII  
N. Staples, RII

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_       SUNSI REVIEW COMPLETE       FORM 665 ATTACHED

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRP	RII:DRS		
SIGNATURE	<b>GKO EMAIL</b>	<b>BJD4</b>	<b>TXS2 EMAIL</b>	<b>AJB3</b>	<b>SAW4</b>		
NAME	G. Ottenberg	B. Davis	T. Su	A. Blamey	S. Walker		
DATE	1/19/2018	1/19/2018	1/18 /2018	1/ 22/2018	1/23 /2018		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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PROGRAMS REPORT\_ FOR CONCURRENCE.DOCX

**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 050000424, 05000425

License Nos.: NPF-68, NPF-81

Report Nos.: 05000424/2017009, 05000425/2017009

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: November 27 – December 15, 2017

Inspectors: G. Ottenberg, Senior Reactor Inspector (Lead)  
B. Davis, Senior Reactor Inspector  
T. Su, Reactor Inspector

Approved by: Shakur A. Walker, Chief  
Engineering Branch 1  
Division of Reactor Safety

Enclosure

## SUMMARY

IR 05000424/2017-009, 05000425/2017-009; 11/27/2017 – 12/15/2017; Vogtle Electric Generating Plant, Units 1 and 2; Design Bases Assurance Inspection (Programs)

The inspection activities described in this report were performed between November 27, 2017 and December 15, 2017, by three Nuclear Regulatory Commission (NRC) inspectors from Region II. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, or Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements were dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

### NRC-Identified and Self-Revealing Findings

#### **Cornerstone: Mitigating Systems**

Green. The NRC identified a non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for licensee's failure to verify drain holes were installed as assigned, following the licensee's evaluation of Information Notice (IN) 89-63, "Possible Submergence of Electrical Circuits Located Above the Flood Level Because of Water Intrusion and Lack of Drainage." Specifically, the licensee did not verify that that junction box 2BTJB0486 was equipped with a weep hole consistent with the assigned corrective action and the corrective action was closed without corrective action being taken. In response to the issue, the licensee initiated Condition Report (CR) 10439858, performed an immediate determination of operability, and determined that equipment associated with the cables in the junction box were Operable but Degraded/Non-conforming (OBDN), and plans to return the affected equipment to fully conforming status.

This performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, not correcting the condition could cause submergence of the unqualified cables during events, which affects the reliability of the equipment. The inspectors determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. No cross cutting aspect was assigned because the inspectors determined that the finding was not indicative of current licensee performance, because the error occurred on January 25, 1990. (Section 1R21.b.1)

## REPORT DETAILS

### 1. REACTOR SAFETY

#### Cornerstones: Mitigating Systems, Barrier Integrity

#### 1R21 Design Bases Assurance Inspection (Programs) (71111.21N)

##### a. Inspection Scope

The inspectors performed an inspection as outlined in NRC Inspection Procedure (IP) 71111.21N, Attachment 1, "Environmental Qualification (EQ) under 10 CFR 50.49 Programs, Processes, and Procedures." The inspectors assessed Vogtle Electric Generating Plant, Units 1 & 2's implementation of the site EQ program as required by 10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants." The inspectors evaluated whether Vogtle staff properly maintained the EQ of electrical equipment important to safety throughout plant life, established and maintained required EQ documentation records, and implemented an effective corrective action program to identify and correct EQ-related deficiencies.

The inspection included review of EQ program procedures, component EQ files, EQ test records, equipment maintenance and operating history, maintenance and operating procedures, vendor documents, design documents, and calculations. The inspectors interviewed program owners, engineers, maintenance staff, and warehouse staff. The inspectors performed in-plant walkdowns (where accessible) to verify equipment was installed as described in Vogtle Electric Generating Plant, Units 1 & 2's EQ component documentation files; and that the components were installed in their tested configuration. Additionally, the inspectors performed in-plant walkdowns to determine whether equipment surrounding the EQ components could fail in a manner that could prevent the safety function of the components, and to verify that components located in areas susceptible to a high energy line break were properly evaluated for operation in a harsh environment. The inspectors reviewed and inspected the storage of replacement parts and associated procurement records to verify EQ parts approved for installation in the plant were properly identified and controlled, and that storage and environmental conditions did not adversely affect the components' qualified lives. Documents reviewed are listed in the Attachment.

The inspection procedure requires the inspectors to select six to ten components to assess the adequacy of the EQ program. The inspectors selected seven components for this inspection. Component samples selected for this inspection are listed below:

- Raychem Low V Heat Shrink Term Kit WCSF-N Splice associated with Tag ID 2HY13006B
- 1818H3P01, Kulka/Conax Terminal Blocks Unit 1
- ZSC3006A(2), Rockwell/Namco Unit 1 MSIV Position Switch
- HV1806, Limitorque Motor Actuator for Unit 1 A-train Containment Cooler Supply Valve
- TE1325, Minco RTD for Unit 2 B-train RVLIS hot leg temperature
- 1HY27901A, ASCO SOV Fire Protection Header Containment Isolation

- 1PT10943, ITT Barton Transmitter Containment Spray- Containment Pressure Wide Range

b. Findings

.1 Failure to Install Drain Hole

Introduction: The NRC identified a Green, non-cited violation (NCV) of Title 10 Code of Federal Regulation (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to verify drain holes were installed as assigned, following the licensee's evaluation of Information Notice (IN) 89-63, "Possible Submergence of Electrical Circuits Located Above the Flood Level Because of Water Intrusion and Lack of Drainage." IN 89-63 discussed the need for weep/drain holes to be installed in conduits and junction boxes where moisture could accumulate and cause the equipment inside to become submerged.

Description: During the inspection, the inspectors walked-down junction box 2BTJB0486, which contained several Raychem cable splices, and noted that it did not have a drain hole installed and that the associated cables in the box were not qualified for submergence. The junction box is located in a plant area containing the main steam isolation valves, and the area is considered a harsh environment due to postulated high energy line breaks. The area additionally is subject to humid conditions during normal operation. Due to the normal conditions and postulated breaks, humidity and/or steam may enter the enclosure and then condense and accumulate at the bottom of the enclosure. The contents of the enclosure may become submerged as a result, particularly if the junction boxes and associated conduits are not sealed and no drain holes are installed at the low points. Junction box 2BTJB0486 and its associated conduits were not sealed and did not contain drain holes.

The inspectors determined that during Vogtle's evaluation of IN 89-63, the licensee discovered that the concerns described in the IN regarding the potential submergence applied to the site. As a result of the site's evaluation, Vogtle had assigned a corrective action in their corrective action document, Open Item Tracking System Control # 17112, to verify that all safety related junction boxes that are required to be environmentally qualified in accordance with 10 CFR 50.49 are equipped with a weep hole. The inspectors also determined that the station closed this planned corrective action on January 25, 1990, without the drain holes being installed. While the corrective action document did not provide a specific reason for its closure, other documentation associated with the licensee's evaluation and follow-up to IN 89-63 revealed that a letter dated October 16, 1989, used to support the extension of cable life beyond 40 years, documented that "Vogtle construction specifications and drawings required junction boxes, located in steam line break areas, to be drilled on the bottom for weep holes." The inspector's review of the current specification noted that it did not require the installation of the drain holes.

Analysis: The inspectors determined that the licensee's failure to verify there was a drain hole installed in junction box 2BTJB0486 as required by their assigned corrective action due to their evaluation of IN 89-63 was a performance deficiency and a failure to meet 10 CFR 50, Appendix B, Criterion XVI. The performance deficiency was more than minor because it was associated with the Equipment Performance attribute and adversely impacted the Mitigating Systems cornerstone objective of ensuring the

availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, not correcting the condition, which could cause submergence of the unqualified cables during events, affects the reliability of the equipment.

The inspectors used Inspection Manual Chapter (IMC) 0609, Att. 4, "Initial Characterization of Findings," issued October 7, 2016, for the Mitigating Systems cornerstone, and IMC 0609, App. A, Exhibit 2, "Mitigating Systems Screening" issued June 19, 2012, and determined the finding was of very low safety significance (Green) because the finding was a design or qualification deficiency of a mitigating SSC and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue was not indicative of current licensee performance.

Enforcement: Title 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that, "conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected." Contrary to the above, since January 25, 1990, the licensee did not identify and correct a condition adverse to quality. Specifically, the licensee did not verify that that junction box 2BTJB0486 was equipped with a weep hole consistent with the assigned corrective action as a result of the licensee's evaluation of IN 89-63. In response to this issue, the licensee initiated Condition Report (CR) 10439858, performed an immediate determination of operability, and determined that equipment associated with the cables in the junction box were Operable but Degraded/Non-conforming (OBDN), and plans to return the affected equipment to fully conforming status. This violation is being treated as an NCV consistent with section 2.3.2.a. of the Enforcement Policy. (NCV 05000425/2017009-01, "Failure to Install Drain Hole")

.2 (Opened) Unresolved Item (URI), Potential Lack of Thermal Aging to End-of-Life Condition for Outside Containment Limitorque Actuator

Introduction: The inspectors identified a URI regarding the potential lack of thermal aging to end-of-life condition for outside containment Limitorque actuators. Specifically, Limitorque did not thermally age the outside containment actuator, equipped with a Class B insulation motor, to Vogtle's end-of-life conditions during the aging sequence in qualification test reports B0058 and B0003.

Description: During the inspection, the NRC reviewed Vogtle's environmental qualification file EQDP-X5AC03, for the Limitorque actuators outside of containment, to evaluate the life extension of the motor-operated valve actuators from 40 years of qualified life to 60 years of qualified life. Part of the review was to verify that the aging and test sequence was completed satisfactorily and in accordance with IEEE 323-1974 to meet 10 CFR 50.49(e)(5). The inspectors noted that Limitorque did not thermally age the test specimen to end-of-life conditions during the aging sequence in qualification test reports B0058 and B0003, which were referenced as the test reports that demonstrated the component's qualification. Limitorque stated in test report B0058, section 3.2.1.1, "Thermal Aging," "Discussion," that "The thermal regression curve for Limitorque Class RH and typical Class B motors, established per IEEE 101-74 and 117-74 are discussed below." Section 3.2.1.3, which followed, discussed the Class B motors and stated:

“Degradation to the insulation system would be proportional to the percentage of failure life which as can be seen above is a very small figure with the expected degradation negligible. This means that artificial life aging of Limatorque Class B motors for purposes of environmental qualification would be unnecessary.”

It is the inspectors’ understanding that the information in the thermal regression curve that was developed by Limatorque was to be used to determine the activation energy of the material, which is then used to determine the artificial aging temperature and time that the component should be subjected to as part of the test sequence. This understanding is supported by IEEE 323-1974, section 6.3.3, which states, “For insulating materials, a regression line may be used as a basis for selecting the aging time and temperature.”

The inspectors noted that Vogtle procedure NMP-ES-016-002, “Environmental Qualification Central File Maintenance,” stated, in section A1.4.3:

“The Environmental Qualification Report Evaluation Checklist is used to evaluate equipment important to safety and located in a harsh environment, in Section C of the EQDP. Calculations may be required to support qualifications for operating time, temperature, radiation, and qualified life. Calculations SHALL be referenced on the SCEW Sheet, as applicable. Assumptions, thought processes, and conclusions used to determine qualification shall be documented in the ‘Remarks’ section; use an attachment, if necessary, to provide documentation.”

The inspectors noted that in the completed checklist in Section C, the licensee identified the qualification method as type testing in section 2.1, “Selection of Methods.” Additionally, Vogtle checked “Yes” for item 2.3, “Test Sequence,” sub-item 4, “Equipment was aged to its expected end-of qualified life condition, including radiation.” The “Test Report Section or Page” column of the checklist for this sub-item identified that the section of test report B0058 which is quoted above provided the basis for Vogtle’s “Yes” response. The inspectors have questioned whether Vogtle answered the checklist question correctly, given that the test specimen was not aged to its end-of qualified life condition, but was rather evaluated as being not susceptible to thermal degradation by Limatorque.

The licensee captured the inspectors’ concern in their CAP as CR 10439376, and reviewed Limatorque’s determination of the susceptibility of the insulation material to thermal degradation and determined the equipment is not impacted. The inspectors determined this issue is unresolved pending: 1) further subject matter expert review of the licensee’s thermal life argument presented by Limatorque to determine if it is adequate to exempt them from meeting the 10 CFR 50.49(e)(5) aging requirement; and 2) further review to determine if this was within the licensee’s ability to foresee and correct and whether Vogtle should have challenged Limatorque’s thermal life evaluation. Further NRC actions are required to resolve the issue and to determine if a violation or performance deficiency exists. (URI 05000424, 425/2017009-02, Potential Lack of Thermal Aging to End-of-Life Condition for Outside Containment Limatorque Actuator)



#### 4. OTHER ACTIVITIES

##### 4OA6 Meetings, Including Exit

On December 15, 2017, the inspectors presented the inspection results to Mr. D. Myers and other members of the licensee's staff. On January 17, 2018, a re-exit meeting was conducted via teleconference to present the final inspection results to Mr. D. Sutton and other members of the licensee's staff. The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee personnel:

D. Myers, Site Vice President, Vogtle  
D. Bunch, Fleet Programs Engineer  
S. O'Neill, EQ Program Owner  
D. Sutton, Regulatory Affairs Manager  
K. Walden, Licensing Engineer

NRC personnel:

A. Blamey, Chief, Projects Branch 2  
M. Endress, Senior Resident Inspector, Vogtle

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened & Closed

05000425/2017009-01	NCV	Failure to Install Drain Hole (Section 1R21.b.1)
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Opened

05000424, 425/2017009-02	URI	Potential Lack of Thermal Aging to End-of-Life Condition for Outside Containment Limitorque Actuator (Section 1R21.b.2)
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## LIST OF DOCUMENTS REVIEWED

### Corrective Action Documents Written as a Result of the Inspection

CR 10434158, 2017 Fire door did not latch  
CR 10434166, 2017 Loose flex conduit from junction box  
CR 10434171, 2017 Oil sheen on MSIV valve bonnet  
CR 10434866, 2017 Electrical and mechanical aging of Barton transmitters  
CR 10439376, 2017 Limitorques actuators outside containment not aged to end of life  
CR 10439456, 2017 Shelf life effects on storage life  
CR 10439519, EQML doesn't contain tie with PDMS for cable and splice tracking  
CR 10439858, 2017 Junction boxes didn't contain drain hole per IN 89-063  
CR 10439861, Pressure transmitter removed from EQML without proper justification  
CR 10439986, 2017 Barton Transmitters not qualified to negative pressure  
CR 10440066, 2017 Inspection of Barton Transmitters outside containment

### Procedures

00150-C, Deficiency Control, Rev. 9  
EOP 19000-1, E-O Reactor Trip or Safety Injection, Ver. 2.1  
NMP-ES-016, Environmental Qualification Program, Ver. 9.1  
NMP-ES-016-001, Environmental Qualification Program Notebook, Ver. 5.1  
NMP-ES-016-002, Environmental Qualification Central File Maintenance, Ver. 12.1  
NMP-ES-016-GL01, Environmental Qualification Implementation, Ver. 3.1  
NMP-GM-011, Procurement, Receipt, and Control of Materials and Services, Ver. 25  
NMP-GM-011-001, Origination of Purchase Requisitions, Ver. 1.1  
NMP-GM-011-002, Requests for New Items and Services, Ver. 2  
NMP-GM-011-002-F01, SNC New Item Request Form, Ver. 1.1  
NMP-GM-011-F02, Enhanced Procurement Specification Development Checklist Relays, Ver. 2  
SCM-005, Warehouse Operations, Ver. 38.0  
SCM-ENG-014, Shelf Life Determination, Ver. 6.0

### Drawings

1X4DB113, P&I Diagram RTD By-Pass Reactor Coolant, System No. 1201, Rev. 28  
2K3-1205-009-01, Residual Heat Removal System Isometric Area 3E, Rev. 18  
2X30-BH-F01J, Elementary Diagram Fire Protection Water System, 2HY-27901B, Rev. 2  
2X3D-BC-002J, Elementary Diagram, Main Steam System, 2HY-13005B, 13006B, 13007B & 13008B, Ver. 5.0  
2X3D-CH-H09M, Wiring Diagram MISC Devices Floor Det. & Lev. Sws Aux Bldg Lev 1, Rev. 1  
2X4DB122, P&I Diagram Residual Heat Removal System, System No. 1205, Rev. 54  
2X4DB174-4, P&I Diagram Fire Protection Water Systems, System No. 2301, Rev. 24  
2X5AC01-00331, Certified Dimension Drawing, Ver. 7.0  
50B0608, 4 Body 70 Actuator 667 NS – ED Diaphragm Actuated Control Valve, Rev. D  
7856-10001, LVP (Large) Electric Penetration Assembly Vogtle Unit 1 & 2, Rev. H  
AX3D-AA-A00V-01, General Notes, Installation and References for Cable Splices, Ver. 31.0  
AX3D-AA-A00V-02, Notes and Details for In-Line Bolted Cable Splices, Ver. 10.0  
AX3D-AA-A00V-03, Notes and Details In-Line Bolted Cable Splices, Ver. 10.0  
AX3D-AA-A00V-04, Three-Way, Four-Way & V Cable Splice Details, Ver. 15.0  
C-330367, Splice, Butt, W/ Sight Hole Solid-strand sheet 1 of 1, Rev. D3  
IOSA-A074, Air Circuit Assembly, Sht. 2, Rev. 2

Calculations

AX4AR01-00543, ASCO Solenoid Valve Qualification Test Report, Rev. 2  
 AX5AD07-32, EQ Report ITT-Barton Model 763 Press Xmtr, Dated 8-21-85  
 X4CPS.0075.044, Evaluation of Post-Accident Operability, Dated 12/05/1986  
 X4CPS.0075.059, Evaluation of Post-Accident Operability, ITT Barton – Level & Pressure Transmitter, Dated 12/5/86  
 X4CPS.0075.183, Qualified Life (QL) Extension for ASCO Solenoid Valves, Rev. 21  
 X4CPS.0075.278, Qualified Lives for Miscellaneous Equipment on Unit 1 MSIV's- Including Namco LS, Patel Seals & Various Materials, Rev. 6  
 X4CPS.0075.321, MSIV Component Qualified Lives, Rev. 9  
 X4CPS.0075.348, Barton Model 764 Differential Pressure Transmitter QL Extension, Rev. 3  
 X4CPS.0075.373, Rerate Degradation Equivalency, Rev. 4  
 X4CPS.0075.426, Thermal Analysis in MSIV Room, Rev. 4  
 X4CPS.0075.478, Qualified Life Extension for Minco Surface Mounted RTDs, Rev. 0  
 X4CPS.0075.492, Average Equivalent Temperatures (AET) for Harsh Rooms with Environmentally Qualified Equipment, Rev. 0  
 X4CPS.0075.497, Qualification Life Extension for Conax Corporation Penetration Assemblies, Rev. 1  
 X4CPS.0075.498, Qualified Life Extension for EGS/SAIC Grayboot connector, Raychem splice and UCI electrical tape, Rev. 4  
 X4CPS.0075.520, Qualified Life Ext for Limitorque Mtr Oper Vlv Actuator, Rev. 11  
 X4CPS.0075.567, Degradation Equivalency – Containment and MSIV Superheat Blowdown, Rev. 2  
 X6CJH.02.7, Auxiliary Building Equipment Qualification- Steam Generator Blowdown Line Break Temperatures, Rev. 8

Work Orders

21202R5073  
 511899  
 SCL00294  
 SNC134322  
 SNC139211  
 SNC407846  
 SNC515994

Corrective Action Documents

147170  
 561869  
 562570  
 762565  
 2006111337  
 2006111338

Miscellaneous Documents

1X4AJ20-10016, Nuclear Environmental Qualification Report Analysis of Motor Operated Valve Actuators, Rev. 2  
 1X5AD07- 10,000, Technical Manual Model 763 Gauge Pressure Electronic Transmitter, Rev. 2  
 1X5AD07, Pressure Transmitter, Dated 8-8-83  
 1X6AA10-00123-49, Equipment Qualification Data Package (Minco Temperature Elements), Rev. 11  
 1X6AA10-00123-49, Equipment Qualification Data Package, Dated 11/17/1995

1X6AB02-00284, Instruction Manual for Reactor Vessel Water Level Resistance Temperature Detector, Dated 12/05/1983

AX3AB03-00034, Installation and Maintenance Manual for Electrical Penetration Assemblies, Ver. 2.0

AX3AB03-110-12, Qualification Report for Electric Penetration Assemblies, Dated 11-24-86

AX3AB03-50-2, Test report for Kulka Terminal Blocks, Dated 10/7/82

AX3AB03-72-1, Design Qualification Test report for Kulka Term. Blks, Dated 8/5/82

AX3AB03-73-2, Design Qualification Test report for Kulka 7TB-12 Term. Blks, Dated 11/3/82

AX3AJ11B-00024, Nuclear Products Guide 1 Catalog Raychem Heat Shrink Guide, Ver. 1.0

AX3AJ11B-00061, Analysis of Heat Aging Data to Determine Aging Conditions for – 52N Molding Material Nuclear Qualification Testing, Ver. 1

AX3AJ11B-00062, Flammability Testing Report, Ver. 1

AX3AJ11B-00063, Analysis of Heat Aging Data to Determine Aging Conditions for – 52N WCSF, WBTF and WWTF Nuclear Qualification Testing, Ver. 1

AX3AJ11B-00064, Nuclear Products Qualification Testing, Ver. 2.0

AX3AJ11B-10003, Qualification Report Supplement for Raychem Nuclear Grade Adhesive, - S1119, Ver. 1

AX3AJ11B-10004, Raychem Per-formulated Products Test Report, Ver. 1.0

AX4AJ20- 10024, Generic Qualification of EA180 Series Limit Switches for Nuclear Power Plants, Rev. 3

AX4AJ20-00151, NAMCO Unit Switches Installation Operation and Maintenance Manual, Rev. 6

AX4AJ20-227, Limitorque Environmental and Seismic Qualification Report B-0058, Dated 10/13/86

AX4AR01-00543, ASCO Solenoid Valve Qualification Test Report, Rev. 2

AX4AR01-00544, ASCO Catalog NP-1 for Solenoid Valves NP 8320 & NP 832141175-1, Dated 4/24/1984

AX4AR17-00253, Nuclear Environmental & Seismic Qualification Test Report for Rockbestos and Eaton Instrument & Specialty Cables, Enertech (Sensor Sys) Potentiometers, Limitorque (Reliance) Motor & Namco Limit Switch , Rev. 1

AX5AD07-32, EQ Report ITT-Barton Model 763 Press Xmtr, Dated 8-21-85

DC-1007, Environmental – Inter-discipline, Ver. 34

DC-1201, Reactor Coolant System Design Bases, Rev. 5

DC-1202, Nuclear Service Cooling Water (NSCW) System, Rev. 13

DC-1206, Containment Spray System, Ver. 6

DC-1301, Main Steam System Design Bases, Rev. 11

DC-1623, Post-Accident Monitoring System, Rev. 14

DC-1818, Electrical Penetration System, Ver. 6

DC-2301, Fire Protection Water System Design Bases, Rev. 10

EDDP X4AR17, Main Steam Isolation Valves, Rev. 37

EQDP X5AC03, Small Butterfly Valves, Rev. 47

EQDP-ESE-42A, Equipment Qualification Data Package for Minco Resistance Temperature Detectors: Surface Mounted, Rev. 1

Focused Area Self-Assessment (FASA) Plan and Report, Plant Vogtle 1 & 2, Equipment Qualification, Dated July 2017

Letter dated 10/16/89, Cable Life Extension Research, File: X3BLO1, Log: SG-8457, W. Ramsey (Vogtle) to T. Champion (Georgia Power Research Center) Re: University of Virginia Letter Dated August 31, 1989 from A. B. Reynolds to Tom Champion

Letter dated 12/29/05, Re: Vogtle Electric Generating Plant- Unit 1&2, Evaluation of Transmitters PT0525

Limatorque Test Report B0058, Limatorque Valve Actuator Qualification for Nuclear Power Station Service Report B0058 Tests Conducted Per IEEE 382-1972, 323-1974, 344-1975  
Prepared by Limatorque Corporation, dated January 11, 1980  
NEL\_93\_0198, Intracompany Correspondence: Shelf Life for EQ Components, Dated 6/7/1993  
Plant Response to IN 06-14S1, Potential Defective External Lead-Wire Connections in Barton Pressure Transmitter, Date December 20. 2006  
Plant Vogtle 1&2 Focused Area Self-Assessment Plant and Report EQ, Dated 4/27/17  
REA 94-V1A004, Partial Disposition for 1R5 Qualified Life Extension, Dated 3/1/1994  
REA 96-VAA067, Temperature Monitoring Program  
SNC-1, Southern Nuclear Operating Company Quality Assurance Topical Report, Ver. 0b  
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